

Amendments to the Drawings

Figs. 1 and 2 are both amended to include the legend "Prior Art". Annotated marked-up drawings of Figs. 1 and 2 showing changes made in red are included. Replacement sheets for these drawings in a corrected version are also attached for filing in the instant application.

Attachment: Replacement Sheets

Annotated Marked-Up Drawings

REMARKS

Claims 1-11 are pending in the application. Claims 1-11 were rejected.

Drawings

The drawings have been objected to as failing to comply with MPEP § 608.02(g) because Figs. 1 and 2 illustrate the prior art and are not designated by a legend such as “Prior Art” where the illustrated hardware is not new due to the subject invention. However, the software instructions and data structures stored in memory 200 and executed by the processor 202 (both of Fig. 2) are new due to the present invention and are excluded from the “Prior Art” description.

The drawings were further objected to under 37 C.F.R. 1.83(a) for failing to show every feature of the invention specified in the claims. Applicant submits that every feature of the invention specified in the claims as filed are shown in the drawings. In Claim 1, the “analyzing and displaying . . . resulting in a map” is illustrated in Figs. 11a and 11b as originally filed. Figures 11a and 11b illustrate displays showing the network of linked data objects and /or function objects, which results in a map of the business and engineering processes. Examples of linked data objects and/or function objects are shown in Figure 11b as “Object_X” and “Object_Y”. Thus, Figs. 11a and 11b show the objected feature specified in Claim 1.

According to Claim 2, “at least a part of the configuration of the networks of linked data objects and/or function objects is predefined.” Such predefined configurations are shown in Figure 4 as reference numerals 380, 382, 384, 386. Thus, Figure 4 as originally filed shows the objected feature specified in Claim 2.

The Office Action indicates that the feature of the invention specified in Claim 3 as a “server process in communication with a client process, with inputs/outputs viewable on any device in the network” is not shown in the drawings. However, Figures 11a and 11b, as originally filed, show a client process indicated by the label “CO Client” in the upper left. Figure 11a further shows two servers labeled “CO Server 1” and “CO

Server 2" which are viewable by any device in the network. Thus, the objected features of the invention specified in Claim 3 are shown by the drawings.

The Office Action further indicates that the drawings do not show the features in Claim 5 in which "references . . . are published using electronic media, print media, or human conversation." According to 37 C.F.R. 1.83(a), "the drawing in a non-provisional application must show every feature of the invention specified in the claims. However, conventional features disclosed in the description and claims, where their detailed illustration is not essential for a proper understanding of the invention, should be illustrated in the drawing in the form of a graphical drawing symbol or a labeled representation (e.g., a labeled rectangular box)." The features described in Claim 5 are represented by step 604 in Figure 10, (as originally filed) which explicitly states that references are published.

According to Claim 6, "the step of generating the data objects and/or function objects provides an interface mapping for data objects and/or function objects stored in application programs, databases or computer code libraries." Originally filed Figure 5 shows data objects and/or function objects stored in application programs, databases or computer code libraries. The application programs, databases or computer code libraries are represented by the circles and squares shown in Figure 5. Specifically, the circles represent models and the squares represent legacy applications. The data objects and/or function objects are stored in these models and legacy applications. Models and legacy applications include application programs, databases or computer code libraries. Thus, the features described in Claim 6 are shown in Figure 5.

As recited in Claim 7, computer code is compiled, dynamically linked and evaluated at run time. This feature is shown in Figure 10 at steps 602 and 610 in which data and/or function objects are generated. Computer code can be a function object that is generated by performing compiling, dynamic linking and evaluating at run time. Thus, this feature of Claim 7 is shown in Figure 10 as originally filed.

Figure 10, step 610 similarly shows the features of Claim 8 in which computer code is interpreted and evaluated at run time. Thus, the features of Claim 8 are illustrated in Figure 10 as originally filed.

The Office Action also objected to the drawings because they did not show the features in Claim 9 and Claim 10 in which the sending or receiving of messages can be enabled or disabled based on criteria message source, destination or contents. The details of these features are not shown in the drawings, however, as indicated in 37 C.F.R. 1.83(a), features in which a detailed illustration is not essential should be illustrated in the drawing in the form of a graphical drawing symbol or labeled representation. Such a labeled representation is shown in Figure 9a, reference numeral 512, as originally filed. As described in the specification at page 9, line 23 through page 10, line 8, the message constraint trigger shown in Figure 9a as reference numeral 512 enables or disables the sending or receiving of messages based on a message's source, destination or contents as set forth in Claims 9 or 10. Thus, the objected features of Claims 9 and 10 are illustrated in the drawings, namely Figure 9a as originally filed.

Lastly, the Office Action objects to the drawings because they do not show the features described in Claim 11 in which user permissions are assigned to a user. However, Figures 11a and 11b show a client's display and the user permissions that that client has with respect to any object as shown in Figure 11b under the column labeled "policy", reference numeral 508, in which the client has user permissions to access the object named A belonging to "Object _Y". This access policy constraint 508 is also shown in Figure 9a. Thus, the features described in Claim 11 are shown in the drawings as originally filed.

Since the drawings show every feature of the invention specified in the claims, Applicants respectfully request that the objections to the drawings under 37 C.F.R. 1.83(a) be retracted.

Amendments to the Specification

Several paragraphs in the specification have been amended to correct grammatical and/or typographical errors. Specifically, the paragraph at page 2, lines 2 through 4 incorrectly contained the singular form of the word "method." The paragraph has been amended to use the plural form of this word. The paragraph at page 4, line 24 through page 5, line 2 had an improperly placed "of". This word has been deleted. The

paragraph at page 17, lines 10 through 22 uses an incorrect form for the verb “to exist.” Accordingly “existed” has been replaced with “existing”. Similarly, “make” in the paragraph at page 22, line 9 through page 23, line 2 has been replaced with “made”.

Claim Objections

Claims 7 and 11 have been objected to because the word “complied” in line 2 of Claim 7 should read “compiled” and the word “futher” in line 1 of Claim 11 should read “further”. Claims 7 and 11 have been amended to correct these errors. The Applicants thank the Examiner for pointing out these errors.

Claim Rejections Under 35 U.S.C 112

Claims 2-11 have been rejected under 35 U.S.C. 112, second paragraph, for lacking sufficient antecedent basis for certain limitations in the claims.

Claims 2, 3-6, and 11 were rejected because the limitation “data objects and/or function objects” is said to lack sufficient antecedent basis. Claim 1 has been amended to provide antecedent basis for the limitation “data objects and/or function objects” in Claims 3-6 and 11.

Claims 7 and 8 were rejected because there is allegedly insufficient antecedent basis for the limitation “function objects”. Base Claim 1 has been amended to provide proper antecedent basis for the objected term in dependent Claims 7 and 8.

Claim 9 was rejected because there is said to be insufficient antecedent basis for the limitation “the sending and receiving of messages”. Claim 9 has been amended to correct for the lack of antecedent basis for this limitation. Since Claim 10 depends from now amended base Claim 9, the rejection of Claim 10 should be withdrawn.

Dependent Claim 12 has been added as a new claim to recite the language “can be enabled or disabled based on predefined criteria” removed from original Claim 9. No new matter is introduced.

Claim Rejections Under 35 U.S.C. 102(b)

Claims 1-7 have been rejected under 35 U.S.C. 102(b) as being anticipated by Pahng et al. (“Modeling and Evaluation of Product Design Problems in a Distributed Design Environment”).

Pahng et al. disclose the Distributed Object-based Modeling and Evaluation (DOME) framework. According to this framework a design problem model is decomposed into objects or modules. These modules are distributed over a network such as the internet. The DOME framework “provides distributed storage with non-distributed execution and access.” Specification, p.6, line 24 of the subject application.

In contrast, Applicants’ invention provides an emergent model or “a model that is created without a predefined or global definition.” Specification, p. 4, lines 10-11. Users are given access to a system for generating an emergent model. The inputs and/or outputs of data objects and/or function objects generated by the users are published and subscribed to, thereby creating a network of linked data objects and/or function objects. In particular, the function objects are implemented by computer code that is compiled, dynamically linked, evaluated, and interpreted at runtime. Thus, unlike Pahng et al., the present invention “combines fully-distributed execution, storage and access to generate emergent models.” Specification, p. 6, lines 24-26.

Accordingly, independent Claim 1 has been amended to include the limitation “wherein the function objects are implemented by computer code that is run on distributed systems in a non-centrally controlled manner” to distinguish the present invention over Pahng et al., which fail to disclose distributed execution to generate an emergent model. Support for this claim language is found at least on Specification page 4, lines 10-14, page 6, lines 21-28, and page 23, line 9 corresponding to Fig. 12b. No new matter is introduced. Thus, Applicants respectfully request that the rejection of Claim 1 be withdrawn.

Since Claims 2-7 depend from and are limited by Claim 1, Applicants respectfully request that the rejection of Claims 2-7 be withdrawn for at least the same above reasons.

Claim Rejections Under 35 U.S.C. 103(a)

Claim 8 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Pahng et al. as applied to Claim 1 and further in view of “Web based collaborative visualization of distributed and parallel simulation” by Bajaj et al.

Bajaj et al. disclose an interaction model to support collaborative scientific visualization defined as “a collection of visualization users who wish to share the results and control of their simulations and visualizations.” p. 48. The interaction model is composed of two or more DSAV loop models. Bajaj et al. describe the DSAV loop model as “[a] work project in the simulation environment ... viewed as a loop of activity with each basic component receiving information from the previous member of the loop and providing information to the next loop component.” p.49. The basic components of the DSAV loop model include Data sources, Simulation servers, Analysis tools, and Visualization clients. The interaction model is constructed by making connections between the basic components of different DSAV loops. Thus, the interaction model can provide for the distributed visualization of simulations and distributed simulation.

Bajaj et al., however, do not suggest or motivate its combination with Pahng et al. to facilitate distributed execution of function objects as claimed in now amended base Claim 1. First, unlike the interaction model presented in Bajaj et al., Pahng et al. present a design problem model decomposed into distinct submodels. The relationships among the submodels or modules and their inputs and outputs define the design problem model. Second, Bajaj et al. focus on collaborative scientific visualization whereby users can view another user’s simulation results and analysis, whereas Pahng et al. direct their attention to the construction of a model from distributed modules spread across a network.

In sum, Bajaj et al. teach collaborative scientific research through the use of collaborative visualization of other’s use of simulation and analysis tools whereas Pahng et al. teach the construction of models via the use of distributed submodels or modules. Since it would not have been obvious to one of ordinary skill in the art at the time the present invention was made to use Bajaj et al.’s interpreted code in Pahng’s modeling system, the § 103 rejection of Claim 8 should be withdrawn. Further, Claim 8 is now

amended for clarity in corresponding to terms of base Claim 1 discussed above. No new matter is introduced. Applicants respectfully request acceptance of Claim 8 as now amended.

Claims 9 and 10 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Pahng et al. as applied to Claim 1 and further in view of “Firewalls Complete” by Goncalves. Claims 9 and 10 depend from base Claim 1. Pahng is argued above and those arguments similarly apply here. Goncalves does not add to Pahng the claimed “function objects” that is “...run on distributed systems in a non-centrally controlled manner” of the present invention. Since the prior art references (Pahng et al. and Goncalves) when combined do not teach or suggest all the claim limitations of now amended base Claim 1 (“wherein the function objects are implemented by computer code that is run on distributed systems in a non-centrally controlled manner...”) Applicants respectfully request that the rejections of Claims 9 and 10 be withdrawn.

Claim 11 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Pahng et al. However, Claim 11 depends from Claim 1 and inherits all of the limitations of the base claim. This, Pahng et al. do not teach or suggest all the claim limitations “wherein the function objects are implemented by computer code that is run on distributed systems in a non-centrally controlled manner” as explained above. Therefore, Applicants respectfully request that the rejection of Claim 11 be withdrawn.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims (Claims 1-12) are in condition for allowance, and it is respectfully requested that the

-15-

application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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Application No. 09/898,527
Annotated Marked-Up Drawing

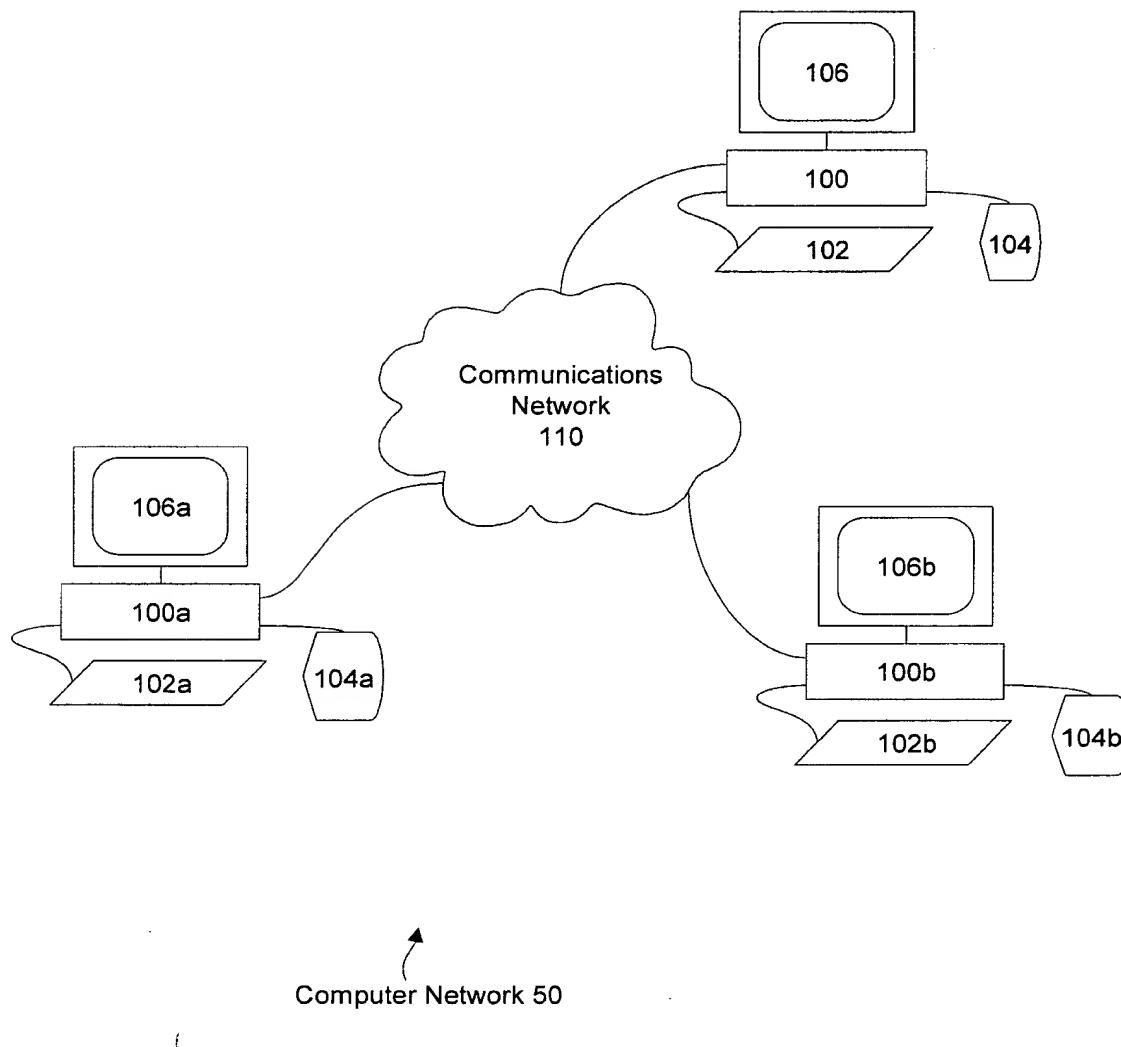


FIG. 1
PRIOR ART

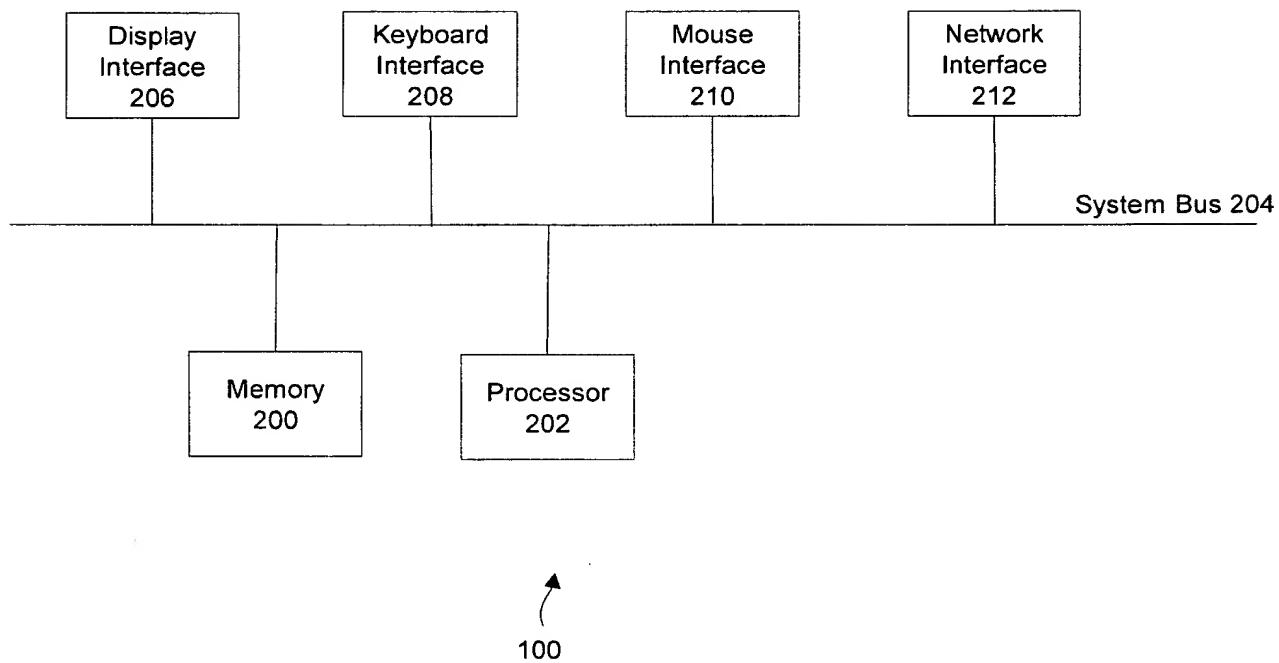


FIG. 2

PRIOR ART